



TROPICAL CYCLONE REPORT

Tropical Depression AMANG 19 – 21 January 2019

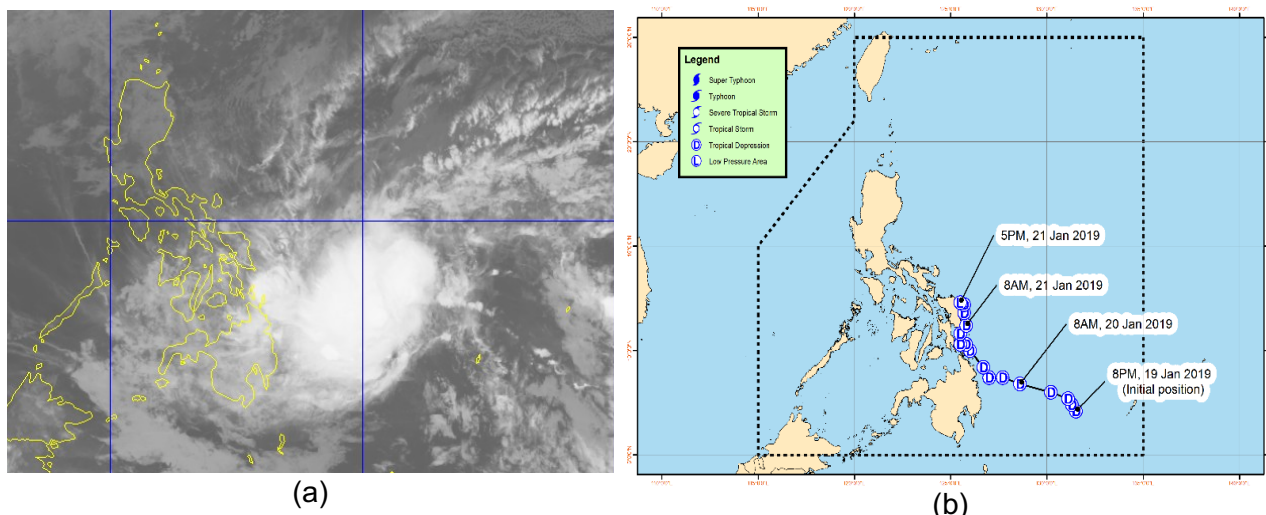


Figure 1. (a) HIMAWARI infrared image at 8:00 PM of 19 January 2019. (b) Warning Best Track of Tropical Depression AMANG, 19 – 21 January 2019.

Tropical Depression AMANG is the 1st tropical cyclone (TC) in 2019 that developed inside the Philippine Area of Responsibility (PAR) and the 1st TC on record in the month of January. No international name was given to the TC by the Regional Specialized Meteorological Center (RSMC) because it did not reach the Tropical Storm category. AMANG is a landfalling TC that remained inside the PAR from **19 to 21 January**. It affected portions of Visayas and the northern and eastern portions of Mindanao before it weakened into a Low Pressure Area (LPA) off the east coast of Northern Samar.

Synoptic History

AMANG was initially analyzed as a Low Pressure Area (LPA) located southeast of Marshall Islands on 04 January. It moved slowly westward and entered the PAR as an LPA at 10:00 AM of 19 January. Though the low-level center circulation (LLC) of the LPA was partially exposed and the deep convection was displaced to the west of the LLC, Figure 1a shows that the system acquired enough organization. It was estimated that the LPA developed into a tropical depression at 8:00 PM of 19 January with estimated maximum winds of 45 km/h. On 20 January at around 8:00 PM, AMANG made its first landfall over Siargao Island, Surigao del Norte. After its landfall, it continued to move northwestward and made its second landfall over Salcedo, Eastern Samar at 7:30 AM of 21 January. Then, it gradually changed its course from northwestward to generally northward. The track chart of the TC's path is given in Fig 1b. On 5:00 PM of 21 January, AMANG has weakened into LPA while it was located east of Catarman, Northern Samar.

Significant Meteorological Observations

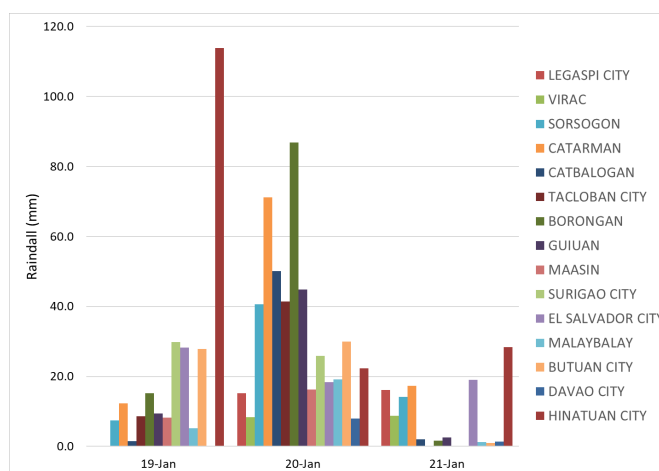
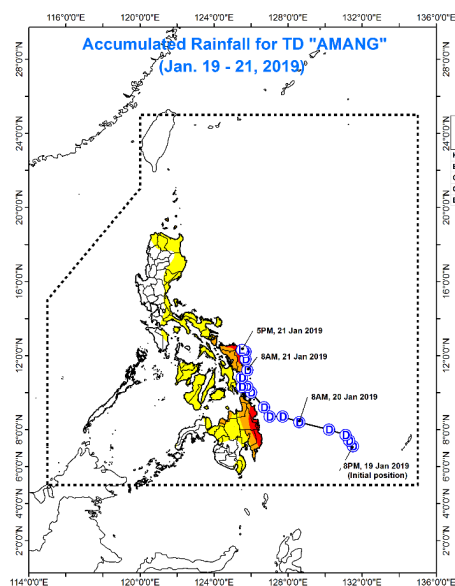
Reports from synoptic weather stations (Table 1) show that Hinatuan, Surigao del Sur recorded the lowest mean sea level pressure during the passage of AMANG, reaching 1005.2 hPa at 4:00 PM of 20 January. Meanwhile, on the same day at 9:30 PM, the highest wind gust of 72 km/h was recorded at Guiuan, Eastern Samar.



Table 1. Selected surface observations for TD AMANG

Station Name	Lowest Minimum Sea Level Pressure (MSLP)		Peak Gust		
	Date and Time	Pressure (hPa)	Date and Time	Direction	Gust (km/h)
Hinatuan, Surigao del Sur	20 Jan, 4:00 PM	1005.2	-	-	-
Butuan, Agusan del Norte	20 Jan, 3:00 PM	1006.9	20 Jan, 4:13 PM	NW	36
Tacloban Ciy, Leyte	21 Jan, 2:40 PM	1004.4	-	-	-
Borongan, Eastern Samar	21 Jan, 3:00 PM	1004.5	20 Jan, 11:50 PM	ENE	54
Juban, Sorsogon	21 Jan, 4:00 PM	1005.2	-	-	-
Catarman, Northern Samar	21 Jan, 3:30 PM	1005.4	21 Jan, 2:00 AM	NE	50.4
Maasin, Southern Leyte	21 Jan, 4:00 AM	1006.4	-	-	-
Virac, Catanduanes	21 Jan, 3:00 PM	1006.6	-	-	-
Surigao City, Surigao del Norte	21 Jan, 4:00 AM	1007.0	-	-	-
Masbate City, Masbate	21 Jan, 3:00 PM	1007.2	-	-	-
Guiuan, Eastern Samar	21 Jan, 3:00 AM	1007.7	20 Jan, 9:30 PM	NNE	72

Figure 2a shows the spatial distribution of rainfall over the period of 3 days (19 to 21 January) during the passage of AMANG. Rainfall in excess of 100 mm was observed over the eastern portions of Mindanao and Eastern Visayas. Meanwhile, rainfall in excess of 50 mm but below 100 mm was recorded over Sorsogon, the rest of Eastern Visayas, of Caraga, and of Davao Region, and some portions of Northern Mindanao.



(a)

(b)

Figure 2. Accumulated 24-h rainfall (mm) during the period 19-21 January 2019 during the passage of tropical depression AMANG (a) Spatial distribution of rainfall. (b) Daily 24-h rainfall from selected weather stations in Southern Luzon, Visayas and Mindanao

AMANG dumped heavy rains over the eastern portion of Mindanao a day before its landfall because of its sheared nature with convective clouds displaced to the west of LLCC. During the TC passage, 19 and 20 January were the wettest days. In Hinatuan, Surigao del Sur, 113.9 mm of rainfall was recorded on 19 January which was the highest recorded 24-hr rainfall accumulation during the passage. On 20 January, as AMANG moved closer to Caraga area, the highest recorded rainfall accumulation (Fig.2a) during that day occurred along and just north of AMANG's track where



synoptic stations in the Eastern Visayas (Fig.2b) namely; Catarman, Catbalogan, and Borongan recorded more than 50 mm of 24-hr rainfall accumulation.

Warning Information

A total of twenty-five (25) domestic information, in the form of sixteen (16) severe weather bulletins (SWB) and nine (9) tropical cyclone warning for shipping (TCWS) were issued. The first SWB was issued on 19 January at 11:00 PM and the first warning was raised over Caraga and Camiguin. A total of 14 provinces were placed under Tropical Cyclone Warning Signal (TCWS) #1 during the passage of tropical depression AMANG. The last warning signal was lifted at 8:00 PM of 21 January.

Preliminary Damage Statistics

There were no significant damages reported by the National Disaster Risk Reduction and Management Council (NDRRMC) associated with the passage tropical depression AMANG in the country.

Note: All dates and times presented in this report are in Philippine Standard Time or PhST (UTC+8).

Disclaimer

This report presents a summary of pertinent information obtained during the **operational warning** period. As such, the information presented herein is intended for the general public, not final and subject to change when additional data becomes available.